

12:00-1:00 PM Lunch

1:30-3:30 PM Parallel Sessions III - A, B, C, D & E

Session A 214

1:30-2:00 PM **Dallas E. Cain** "Genesis One - The Family Tree of Interpretations and a Best-Buy Analysis" *nature & storybook*

2:00-2:30 PM **Stanley Rice** "The 'Design Model' vs. 'Group Selection' in the Origin of Species"

2:30-3:00 PM **Charles B. Thaxton** "Origin Science: An Idea Whose Time Has Come"

3:00-3:30 PM **Thomas E. Van Koeverling** "The Status of the Creation/Evolution Issue Among Teachers in Wisconsin Public Schools"

Session B

1:30-2:00 PM **R. Ward Wilson** "God's Image, Contextualizing the Gospel, and Cross-Cultural Values"

2:00-2:30 PM **James O. Buswell** "The Image of God in the Nature of Humanity: Transcendence Limited by Cultural Determinism"

2:30-3:00 PM **Jeff Schloss** "Sociobiological Constraints on Human Nature: Theological Implications of the Altruistic Behavior Debate"

3:00-3:30 PM **J. Richard Middleton** "What Does It Mean to be Made in God's Image? Gen. 1:26 in Ancient Biblical & Modern Cultural Contexts"

Session C

1:30-2:00 PM **Jonathan H. Woodcock** "The Concept of Hyper-Religiosity in Neuropsychiatric Illness: Anatomic & Clinical Considerations"

2:00-2:30 PM **Walter Colin Johnson** "The Mind/Body Problem in the Light of the Bible & Modern Medicine"

2:30-3:00 PM **Lucille Wolgemuth** "The Nature of Humanity in Scripture vs. Psychology"

3:00-3:30 PM **Paul A. Young** "The Sermon as Behavior Change Agent: the Implications of State Dependent Learning"

Session D

1:30-2:00 PM **Tomuo Hoshiko** "On the Foundations of Bioethics"

2:00-2:30 PM **David S. Barnes** "Bioethics: The New Battleground Between Science & Religion?"

2:30-3:00 PM **William Cliff** "Man & Animals: Rights, Responsibility & Biomedical Research"

3:00-3:30 PM **Tomuo Hoshiko** "The Assault on Animal Use in Biomedical Use & Testing"

Session E 209

1:30-2:00 PM **Randy Isaac** "Chronology of the Fall: the Transition of the Nature of Humanity to the Post-Fall Condition"

2:00-2:30 PM **Ernest H. Wells** "Astronomical Time in Genesis Days"

2:30-3:00 PM **W. Richard Kunz** "The Correlation of Theology with the Physical Cosmos"

3:00-3:30 PM **Adrian V. Clark** "The Physics & Parapsychology of Humanity"



Information about the American Scientific Affiliation can be obtained at the literature table at the meeting, or by writing the National Office at:

American Scientific Affiliation
PO Box J
Ipswich, Massachusetts 01938

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41st Annual Meeting
of the

**American
Scientific
Affiliation**

August 8-11, 1986

Houghton College
Houghton, New York

1986 Theme:

The Nature of Humanity

**OFFICIAL
PROGRAM**

OFFICIAL PROGRAM

41st Annual Meeting of the ASA
Theme: The Nature of Humanity
August 8-11, 1986
Houghton College, Houghton, New York

FRIDAY, AUGUST 8

- 4:00-6:00 PM Registration** (Reinhold Campus Center)
6:00-7:00 PM Dinner
7:00-7:30 PM Late Registration
7:30-9:00 PM Opening Session
Welcome - Houghton College

Ann H. Hunt,
President of ASA
David G. Myers - "Current Trends
in Psychology: Myths and Realities"

9:00 PM Mixer

SATURDAY, AUGUST 9

- 7:30-8:15 AM Breakfast**
8:00-9:00 AM Late Registration
8:45-9:00 AM Devotions
9:00-10:15 AM Technology & Humanity - Social Ethics
Lars I. Granberg "Thielicke on Humanity & Personality: An Overview"
Thomas J. Burke "Historical Perspectives on Technology: A Theological Appraisal"
10:15-10:45 AM Break
10:45-Noon Technology & Humanity - Social Ethics
Robert E. VanderVennen "World Views for Technology"
Duane R. Kauffmann "Is Technology Master or Servant? Perspectives on Science, Community & Self"
12:15-1:00 PM Lunch
2:00-3:15 PM David G. Myers - "Yin & Yang in Psychological Research & Christian Belief"
3:15-3:45 PM Break
3:45-5:00 PM Parallel Sessions I - A, B, & C

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Session A 214

- 3:45-4:15 PM Conrad Hyers** "Divine Image & Evolutionary Dust: The Paradox of Human Nature in Genesis"
4:30-5:00 PM Charles Hummel "Two Books of God"

Session B 211

- 3:45-4:15 PM R. Ward Wilson** "God's Image in Humanity: The Essence of Human Nature"
4:30-5:00 PM W. Jim Neldhardt "Relationship Analogies in Theology & Natural Science"

Session C 311

- 3:45-4:15 PM Thomas C. Dent** "Missionaries as Conservationists & Agricultural Subsistence Participants in the Societies Where They Serve"
4:30-5:00 PM Kennell J. Touryan "Tentmaking & the ASA Member"
5:15-6:00 PM Barbeque
6:30-9:00 PM Letchworth State Park Outing
9:30 PM Oxford Revisited Slide Show

SUNDAY, AUGUST 10

- 8:00-9:00 AM Breakfast**
9:30-10:30 AM Worship Service
10:45-Noon Moss Lake Presentation & Field Trip
12:30-1:30 PM Dinner
2:00-3:15 PM David G. Myers - "Practical Implications of Psycho-Social Research for the Church"
3:15-3:45 PM Break
3:45-5:00 PM Ann H. Hunt - ASA Presidential Address
ASA Annual Business Meeting
5:30-6:30 PM Supper
7:00-8:30 PM Parallel Sessions II - A, B, C & D
Session A 214
7:00-7:30 PM Howard J. Van Till "Biblical Creation & Big Bang Cosmology"
7:30-8:00 PM George L. Murphy "The Paradox of Mediated Ex Nihilo Creation: A Study in Chiasmic Cosmology"
8:00-8:30 PM John W. Haas, Jr. "Christianity & the Rise of Science - A Reappraisal"

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Session B 211

- 7:00-7:30 PM Helen E. Martin** "Using the Direct Readout of Weather Satellites to Teach Values in the Classroom"
7:30-8:00 PM Russell R. Camp "Screening for Cloning Enzymes - The Benefits of Cooperative Research Between College & Industry"
8:00-8:30 PM Don England "Paul's Mars Hill 'modus operandi' in the Aeropagus Speech - A Christian Basis for Presenting Ethical Moorings in a Pluralistic Society"
Prof. Chem at Harding Univ

Session C 311

- 7:00-7:30 PM Bruce G. Nilson** "Science, Theology & Human Behavior: Survey Results of Attitudes & Behaviors Following the Three Mile Island Nuclear Incident"
7:30-8:00 PM John M. Osepchuk "Is ASA Seeking the Truth in 'Environmental' Matters?"
8:00-8:30 PM Donald V. Gaffney "Caution: Hazardous Decision Making"

Session D 310

- 7:00-7:30 PM James C. Hefley** "Good News, Bad News, or Mixed News: What's the Best News for Man?"
7:30-8:00 PM John A. Knapp, II "Things Fairy Tales Teach Us That Science Never Can"
8:00-8:30 PM Henry R. Ayoub "The Lady of Zeitoun: A Factual Account of a Paraphysical Phenomenon"

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MONDAY, AUGUST 11

- 7:00-8:00 AM Breakfast**
8:30-9:00 AM Devotions
9:00-10:15 AM Creation, Evolution & Education
David L. Wilcox "Three Models of Making: Prime Mover, Craftsman, and King"
J. David Price "Teaching Science in a Climate of Controversy: ASA's Outreach to Science Teachers"
10:15-10:45 AM Break
10:45-11:45 AM Creation, Evolution & Education
Walter R. Hearn "ASA's Responsibility & Opportunity" Discussion

Abstracts of Papers to be Presented
at the
1986 ANNUAL MEETING
of the
American Scientific Affiliation
August 8-11, 1986

Listed Alphabetically by Author

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THE LADY OF ZEITON: A FACTUAL ACCOUNT
OF A PARAPHYSICAL PHENOMENON

Henry R. Ayoub, Victor DeVincenzo, Karl Hricko
6 Deborah Drive, Edison, N. J. 08820

In May 1968, the New York Times, the Times of London Late Edition, Reuters and other news agencies, reported an international press conference held in Cairo by the Hierarchy of the Coptic Orthodox Church in Egypt. A signed document affirming the validity of reported miraculous appearances of the Virgin Mary at the "Church of the Virgin" in Zeiton, a District of Cairo, was presented there. The document also stated that the appearances were witnessed by thousands of Egyptians and foreigners.

The reported night appearances started on April 2, 1968, and continued for about two years. Those appearances, more properly called transfigurations, consisted of white clouds appearing at the roof of the church, which then became larger and brighter, and finally took, the shape of the Virgin, as she commonly is represented by Christian churches. Medical cures which occurred during the period of the apparitions have been certified by a commission of seven doctors and university professors, as to be medically unexplainable. In two known instances, the late President Gamal Abdel Nasser took a personal interest in facilitating the procedures for the medical treatment of two individuals.

This paper details the above phenomena. Its content is based on official Church documents, official testimonial books, the Egyptian press, research documentation made on-site by two unrelated American investigators, photos, and conversation between the authors and several Egyptian eyewitnesses among the many who have emigrated to the U.S. No discrepancy has been found. It is an event with no equal in the past.

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BIOETHICS: THE NEW BATTLEGROUND BETWEEN SCIENCE AND RELIGION?

David S. Barnes
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Responses to bioethical questions are made within particular cultural/ideological contexts. This paper reviews, beginning with the scholasticism of the 11th century, the cultural milieu within the Christian Church in which ethical questions relating to scientific developments have been considered. Criteria the Church has used to evaluate these developments and the potential utility these criteria have in considering contemporary bioethical questions are critiqued. Building upon

this critique, I will attempt to identify those criteria which I perceive are best suited to resolve such bioethical issues.

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HISTORICAL PERSPECTIVES ON TECHNOLOGY: A THEOLOGICAL PERSPECTIVE

Thomas J. Burke
Hillsdale College, Hillsdale, Michigan 49242

The rise of modern technology has led to a host of new moral dilemmas. It is necessary, therefore, that Christians develop a proper theological perspective from which to approach these problems. This paper will argue (1) that the ethical issues raised by modern technology are not different in kind from those faced previous to this development. Technology complicates but does not essentially change the dynamics of Christian ethics. Issues raised by technological developments, therefore, are problems in the refinement and application of ethical principles and do not call for the discovery of new ones. Consequently, basic biblical principles provide a sufficient basis from which to draw conclusions and make decisions.

The second part of the paper will attempt to outline those biblical teachings which are directly relevant to the issues raised by modern technology. By so doing, it is hoped a framework will be established within which at least a beginning can be made towards the undoubtedly long and arduous task of developing a theological ethics of technology.

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THE IMAGE OF GOD IN THE NATURE OF HUMANITY: TRANSCENDENCE LIMITED BY CULTURAL DETERMINISM

James O. Buswell, III
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Pasadena, California 91104

Humanity is, by creation, the unique culture-bearing creature.

In the theological expressions of the Imago Dei the emphasis is rightly placed upon the unique spiritual part of human nature. In the explanations of this, however, the emphasis is overwhelmingly placed upon the spiritual-physical contrasts with the animal world. Usually the focus is on the transcendence of the human powers over the instinct-bound animals in terms of free-will and self determination, completely bypassing the cultural context of the formulation of human tastes and values and its impact on human decision-making.

I submit that the human spiritual nature unified with the socio-cultural nature involving the unique symboling facility of language, constitutes the fullest expression of the Image of God in the nature of humanity. Consequently, far more of human behavior is culturally determined than traditional explanations of human free-will and transcendence have allowed.

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GENESIS ONE -- THE FAMILY TREE OF INTERPRETATIONS,

AND A "BEST-BUY" ANALYSIS

Dallas E. Cain
18 Edmel Road, Scotia, New York 12302

There are over two dozen interpretations of Genesis One (discounting those featuring "framework" with denial of "chronology"), and these will fall into seven natural classifications. The first dividing line concerns whether God's creative commands were fulfilled immediately or progressively. After delineating the classifications, we may next develop our own personal score card for rating each class against any basic criteria such as "Total time span is indefinite," "Avoids creation-with-the-appearance-of-age," or "The fulfillments would be expected to overlap." The literature on Genesis One contains neither the family tree nor the score card, so they serve to refute the lethargy that seems to project "the last word has already been said about Creation."

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SCREENING FOR AND CLONING RESTRICTION ENZYMES -
THE BENEFITS OF COOPERATIVE RESEARCH BETWEEN COLLEGE AND INDUSTRY

Russell R. Camp
Gordon College, 255 Grapevine Road, Wenham, Mass. 01984

I took a summer-fall sabbatical at New England Biolabs (NEB) to learn how to screen bacteria for restriction enzymes and gain experience in cloning restriction enzymes. The screening research was continued at Gordon College with the help of student biology majors. Each student purified bacteria from activated sludge of a local sewage treatment plant, assayed the bacteria extract for enzyme activity and identified the enzymes present. Two new enzymes and several isoschizomers were discovered.

I spent the next two summers at NEB attempting to clone NlaIII methylase and restriction enzyme. The methylase was cloned using a protocol developed by Geoff Wilson at NEB. EcoRI partial and complete digests were made of Nla DNA. The partial and complete fragments were ligated into the plasmid pBR322 and then E. coli strain RRI was transformed (on Luria broth with ampicillin) with the ligated plasmids. Partial and complete primary cell libraries were obtained and used to prepare two primary plasmid pools. Plasmids containing a methylase gene insert were selected by mixing an aliquot of each primary plasmid pool, digesting with SphI followed by lambda exonuclease. RRI cells were transformed with the digest. A mini-plasmid prep was performed on 28 survivor colonies and plasmids larger than native pBR322 were checked for resistance to SphI digestion. Two resistant plasmids were detected. Confirmation of the expressed methylase clones was determined by growing up a 50ml culture of each clone, purifying the bacterial DNA and testing its resistance to SphI digestion. Both clones tested negative for NlaIII restriction enzyme activity.

The benefits of cooperative research have been many. The resources of NEB are available to Gordon College. Students have become involved in cooperative work experience at NEB and four biology major graduates are now full-time employees at the company. Furthermore, this venture provides an opportunity for me and my students to share our perspective on science and the Christian faith with many of the employees at NEB.

A genetic revolution is touching all areas of our life and Christian colleges can benefit by establishing and strengthening relationships with the biotechnology industry.

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PHYSICS AND PARAPSYCHOLOGY OF HUMANITY

Adrian V. Clark
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Physics uses math to describe some aspects of physical nature; however physics does not have a language for the nature of parapsychology which is a study of the sixth sense of humanity.

Physicists performing research in parapsychology have found that the average person can obtain information at a distance, remote viewing, and the average person can also exert a very small force on objects at a distance, psychokinesis. Research physicists do not consider parapsychology effects in physics experiments. The experimenter affects his experiment by psychokinesis and physicists who understand the physics of the experiment affect the experiment.

The parapsychologists may say that the Challenger 7 tragedy was caused by many people believing that a failure would occur sooner or later. The physicists would not agree and would find the material which failed. Both parapsychologists and physicists could be correct.

The physics of a weak gravitational and/or electrostatic force which can give an explanation to parapsychology has been formulated. This physics states that for energy level transitions there is a change in the geometry of space which has an affect on very small objects, i.e. electrons.

The parapsychology effects are caused by the normal energy level transitions of the brain producing a change in the geometry of space which has an affect upon objects.

Physics and parapsychology, when correlated, can give explanations for unusual quantum mechanical effects in nature and for unusual psychic effects experienced by people.

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MAN AND ANIMALS: RIGHTS, RESPONSIBILITY AND BIOMEDICAL RESEARCH

William Cliff
Section of Physiology, Cornell University, Ithaca, New York 14853

The use of animals in biomedical research has received eye-catching media coverage of late, reflecting the increased polarization between more militant animal protection groups and the scientific community. For the Christian, ethical issues surrounding animal experimentation take prominence over strictly utilitarian concerns. Addressing the questions of whether animals are proper objects of moral concern and whether they qualify for civil rights requires a survey of the Scriptural teachings on the distinct position and role of man - a moral being

- in relation to all other created life (beginning with Gen. 1:27-28). Consideration should then be directed to instances of animal use and care as presented in both Testaments to arrive at the God-given moral status of animals in human society. A position can be proposed which supports the thoughtful use of animals in biomedical research based upon man's unique position as created in the image of God, his God-given mandate to rule over the animal creation, and God's eternal plan for mankind. This position shifts emphasis from autonomous animal rights to human care and responsibility for all of God's living creatures.

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MISSIONARIES AS CONSERVATIONISTS AND AGRICULTURAL SUBSISTENCE
PARTICIPANTS IN THE SOCIETIES WHERE THEY SERVE

Thomas C. Dent
Gordon College, Wenham, Massachusetts 01984

Christian missionaries are often faulted (although many are praised) for their approaches to agriculture and conservation in the areas where they serve. The "right" balance between subsistence gardening, introduction of environmentally sound agricultural technique improvement and preservation of the natural environment along with sharing the Gospel is a mix which is perceived in different ways by different mission efforts.

The "Missionaries as Earthkeepers" conference at AuSable Institute last year began to address some of the issues in a more systematic fashion which attempted to cut across the lines of separate "missionary turf" protection mind sets.

The project explored by this paper was an assessment of perceptions gathered from a field study of missionary and non-missionary agricultural and conservation projects in Central America. It attempts to assess the positiveness and/or negativeness generated by any subsistence and/or instructional agriculture activities resulting from the interaction of missionaries living as human neighbors with the people they have been called to serve.

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PAUL'S modus operandi IN THE AREOPAGUS SPEECH: A CHRISTIAN BASIS
FOR PRESENTING ETHICAL MOORINGS IN A PLURALISTIC SOCIETY

Don England
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It is presupposed that Paul's object in the Areopagus speech was to present Christ to the intelligentsia of an essentially amoral, pluralistic, quasi-democratic, Athenian Aeropagus court in a way that would be palatable to his elite audience. Paul's method is recognized as (a) an appeal to man's inner nature, (b) an appeal to the Athenian poets, and (c) an appeal to Divine revelation. It is further presupposed that, although Biblical revelation may not give specific answers to many ethical dilemmas, there are ethical and moral moorings consistent with Biblical revelation.

Paul's method in the Areopagus speech has relevance for the modern American Christian who lives in a society not entirely unlike that of

Hellenistic Athens and who wishes to present Biblically consistent ethical moorings to an element of our society that may be hostile to the Christian or Biblical perspective. Pursuant to delineating Paul's method in the Areopagus speech, an attempt is made to demonstrate that Paul's method is useful in the Christian's attempt to present solutions to ethical dilemmas. This consist of (a) an appeal to man's inner nature, (b) an appeal to secular rules of ethical conduct, particularly, the passive rule of Confucius and the categorical imperative of Kant, and (c) an appeal to useful ethical moorings found in Biblical revelation.

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CAUTION: HAZARDOUS DECISION MAKING

Donald V. Gaffney
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Several Federal and State agencies are working with private engineering companies to mitigate man-made environmental hazards. Mine subsidence and contamination from industrial wastes are two such hazards. Case histories of these two hazards illustrate how decisions concerning mitigative or remedial measures are made. Decisions are often made on the basis of safety evaluations, and may or may not recognize other tradeoffs involved. Recent increases in both the capability and desirability to mitigate these hazards influences the decision-making process, as do legislative and regulatory restrictions. A comparison of approaches taken highlights differing obligations, goals and responsibilities between agencies. Awareness of these differences can provide a broader perspective from which the success of both approaches to hazard mitigation can be evaluated.

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CHRISTIANITY AND THE RISE OF SCIENCE - A REAPPRAISAL

John W. Haas, Jr.
Gordon College, Wenham, Massachusetts 01984

For more than forty years the emerging discipline of History of Science has fostered a vigorous (sometimes acrimonous) discussion of the role of Christianity on the development of modern science. A cast of Christian and secular writers may be found on all sides of the issues. In the main, evangelicals have tended to accept assertions which affirm the contribution of Christian theology and ideology to the scientific movement often without examining the evidence of other investigators who have come to different conclusions. Evangelicals have tended to narrow their discussion to the period of the 'Scientific Revolution' of the 16th and 17th century and assume an overriding influence of England and the Calvinistic nations.

This paper will contend that a much longer view of the development of science is required - one which reaches back to the origin of civilization to examine the origin, development and transmission of the ideas which are fundamental to modern scientific practice and views the mutual interactions of primitive science with the Christian church as it developed from the patristic era through the middle ages and the Reformation. A model for the development of modern science will be developed which

takes into account the contributions of Greco-Roman and Judeo-Christian thought to scientific methodology and the society which fostered the 'new science'.

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ASA'S RESPONSIBILITY AND OPPORTUNITY

Walter R. Hearn
762 Arlington Avenue, Berkeley, California 94707

For years ASA has discussed creation and evolution relatively dispassionately at a scholarly level, seeking to sort out among ourselves the relevant scientific, philosophical, and theological issues. ASA has thus had a positive influence on several generations of thoughtful evangelical Christian writers. At the level of public discourse, however, the so-called creation/evolution controversy has become a political battle in the courts, legislatures, and school districts of America. The ASA Committee for Integrity in Science Education was established to explore possibilities of responding to the public controversy in helpful ways. The author of this paper, who has helped write Teaching Science in a Climate of Controversy, believes that ASA can exert a positive influence through participation in the National Science Teachers Association. ASA should be on the program when NSTA holds its 35th National Convention in Washington DC, 26-29 March 1987, and should have an informational booth there. Discussion of these and other ways of fulfilling ASA's responsibility to science teaching, and to science teachers, is welcomed.

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GOOD NEWS, BAD NEWS, MIXED NEWS: WHAT'S THE BEST NEWS FOR CHRISTIAN COMMUNICATORS?

(An experimental study of the effects of positive, negative, and mixed messages in a religious media campaign)

James C. Hefley,
31 Holiday Drive, Hannibal, Missouri 63401

Oral Roberts declares, "Something good is going to happen to you..." Hee Haw's pessimistic hillbillies wail, "Gloom, despair, and misery and woe...If it weren't for bad luck, I'd have no luck at all..."

Both good news and bad news abounds in the mass media. Among television evangelists, there is "Good News Oral" and "Bad News Jerry" (although both reverse roles at times). Which message is most effective for the purposes of the Christian communicator? Could mixed messages (bad news with a silver lining of hope) be more fruitful and Scriptural?

A controlled field experiment was conducted in a large evangelical church in Anchorage, Alaska to see if positive, negative, and mixed messages would evoke differing behavioral and verbal responses in a religious media campaign.

The good news message was significantly superior to the others in motivating receivers to bring guests to an evangelical meeting. The bad news message appeared to be a turn-off. But the mixed news message and the control (ticket only without a message) appeared to be more

effective in inducing commitments to attend, to invite friends to additional meetings, and to give money for expense of the planned meetings.

This suggests that the Biblical message of divine hope amidst human despair (e.g. Romans 6:23) is more attuned than predominantly positive or negative messages to desired pro-social Christian behavioral response.

* * * * *

ON THE FOUNDATIONS OF BIOETHICS

Tom Hoshiko

2651 Ashurst Road, University Heights, Ohio 44118

Recent advances in biomedical technology are generally cited as the cause of resurgence of interest in an emerging area of ethics dubbed "bioethics", a secular discipline derived from analytical philosophy. An equally important impetus has been the growing rejection of the traditional Judeo-Christian view of man. Bioethics appears to be a search for a minimal, rational, and secular consensual basis for regulating society's treatment of humans, human-derived life-forms and the rest of the animal (and plant?) Kingdom. The rejection of the biblical stance that man was created in God's image for His purposes has led to this situation. A recent personal encounter with major new components of our modern health care system and my growing concern as a biologist of the extremist actions of the anti-vivisectionist movement has stimulated my involvement. From a care-receiver's perspective, the ethical components which underlie the activities of the health care system are such intangibles as trust, mercy, compassion and brotherly love. In contrast, contemporary bioethical theorists contend that the foundational principles of bioethics are autonomy (mutual respect) and beneficence (doing good). The motivation is utilitarian, namely to maintain peace in a pluralistic, secular society. Believing Christians must participate in this dialogue if we are to avoid the consequences of the arid rationality of the professional ethicist. Moreover Christian biomedical scientists are needed to penetrate the technological fog surrounding the issue.

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TWO BOOKS OF GOD

Charles E. Hummel

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For hundreds of years Christians have affirmed two "books of God": his word in Scripture and his works in nature. The first primarily concerns the arena of human history and God's purpose for our lives. The second reveals the created order and is investigated by science, which observes, measures and provides mathematical explanations.

The question arises as to how these two perspectives are related to each other. Three main models have been proposed. The two-realm view considers theology and science as having radically different spheres, jurisdictions or arenas. Concordism attempts to harmonize the biblical

and scientific explanations of nature to provide a composite picture. The partial-view model considers the two perspectives to be complementary - different kinds of maps for the same terrain.

This paper will describe the contents of the "two books" and propose a way of relating them that does justice to each and also to other perspectives on the natural world.

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DIVINE IMAGE AND EVOLUTIONARY DUST:
The Paradox of Human Nature In Genesis

Conrad Hyers
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The initial biblical parameters in defining human nature are offered in the creation accounts of Genesis 1 and 2. A tension is developed in these early chapters between the themes of creation in the divine image and likeness (Genesis 1) and creation out of the dust of the earth (Genesis 2). This tension and its implications have often been misunderstood by interpreters who would minimize the tension, or by views of human nature which would emphasize either the divine likeness or the dust of the earth.

The reasons for the biblical juxtaposition of these two contrasting descriptions of human nature will be explored. These reasons may be shown to be both cultural (Genesis 1 drawing upon the imagery of agricultural-urban Israel, Genesis 2 drawing upon the imagery of shepherd-nomadic Israel) and theological (using that imagery to define human nature, its limits and limitations, and its relationship both to God and to animal life and nature at large).

The paradoxical definition of human nature thus developed in Genesis 1 and 2 becomes the introduction to a second paradox, developed in Genesis 3 and following: the tension between the ideal definition of human nature (Gen. 1-2) and a fallen human nature. The implications of these two paradoxical ways of interpreting the human condition will then be applied to two critical areas of modern debate over human nature: environmental/ecological concerns and creation/evolution controversies.

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CHRONOLOGY OF THE FALL

Randy Isaac
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Our view of the chronology of the Fall is closely linked to our view of the chronology of the origin of the world and is directly related to our perception of the nature of evil and the nature of humanity. Yet the chronology of the events concerning the first recorded human sin and its consequences has been given relatively little attention compared with the much publicized debates about the creation of the world and the origin of life. This paper gives a broad overview of several interpretations of the Fall and indicates how they are related to our concept of creation and of the nature of the fallen world.

The most commonly held view is that the Fall and the resulting curse occurred instantaneously. The scope of the impact of the curse ranges from a radical change in the laws of physics to a change in the psychological and spiritual perception of humans, depending largely on the credibility given to the geological and fossil records. Other ideas include a dual fall and curse, a retroactive curse, or a gradual developmental curse. Finally, consideration must be given to the atemporal view of the Fall which maintains that the Bible does not provide any insight into the chronology of the Fall but only into the nature of evil and of humanity.

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THE MIND/BODY PROBLEM IN THE LIGHT OF THE BIBLE AND MODERN MEDICINE

Walter Colin Johnson
132 Pine Street, Hanover, Massachusetts, 02339

In discussing the mind/body problem we must decide whether man is merely a complex biological machine or whether he is also something more - a living soul made in the image of God. Upon the answer to this question depends our whole estimate of each individual personality, our attitude to ethics, morality and religion and our views regarding the possibility of life after death.

The human body in a sense is a complex biological machine, and examples of feedback mechanisms in human physiology, the concept of the brain as a biocomputer and modern views on the biological basis of memory are cited in support of this idea. The effect of disease or trauma to the brain and results of electrical stimulation to different areas of the brain upon personality are also considered; likewise the effect of psychological stress upon the human body are demonstrated.

The significance of split brain studies and life after life experiences are evaluated in our search to probe the ultimate nature of mind.

Finally the philosophies of monism and dualistic concepts of psychophysical parallelism and interaction are discussed as possible explanations for the nature of man, the last view being accepted by the author who attempts to demonstrate that it is compatible with the Biblical concepts of the nature of man and of resurrection and life after death.

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IS TECHNOLOGY MASTER OR SERVANT? PERSPECTIVES ON SCIENCE, COMMUNITY, AND SELF

Duane Kauffmann
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This paper examines Theilicke's contention that technology has transcended human control and has assumed momentum in directions that may very well be harmful to humans. After a brief examination of two technological scenarios, the analysis focuses on the issue of whether humans can make deliberate decisions which demonstrate a capacity to modify or control the direction of technological advance. Several examples (e.g. supersonic transport, genetic engineering) are discussed to illustrate

the point that humans have made, and can continue to make, such rational choices. The discussion of choice concludes with a brief discussion of psychological factors pertaining to personality and self. Several areas of unease are also noted.

The discussion then moves to the effects of technology on the religious community. The analysis suggests there are several significant issues (e.g. institutional expectations, evangelism) where the church has not yet demonstrated a capacity to handle the technological challenge. The final section of the paper includes a brief analysis of the effects of technology on the international community.

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THINGS FAIRY TALES TEACH US THAT SCIENCE NEVER CAN

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Perhaps those in science can best understand that science can only go so far in getting at what we feel we need to know. There are other important avenues to truth, though the accompanying road signs may be hazier. The West German Siegfried Schaible focused my thinking about this. Years ago, in a review of The Relevance of Science by Carl Friedrich von Weizsacker (which appeared in the ASA Journal), Schaible stated that there were at least four questions that science will never be able to answer: (1) What is the meaning of the universe, and of my own life in particular? (2) What is the basis for hope and trust that everybody seems to need? (3) What kind of ethical standards shall we choose for our private and public life? (4) Does God exist? And if so, how does he relate to the universe and to man?

As the only(?) professor of English who belongs to ASA (and the only tenured English prof in the U.S. with a Ph.D. in science education), I have long pondered the limits of science and alternative ways in approaching truth. As a children's writer I have moved from elementary science textbooks (Silver Burdett) to poetry (A Pillar of Pepper and Other Bible Rhymes, D. C. Cook, 1982) and fantasy. In my presentation I will identify and briefly discuss ten important things classic fairy tales can cause us to explore, about which science is ignorant, and, by example, I will read an original fairy tale (written in the old tradition), "The Man in the Scarlet Cloak," which illustrates my point.

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THE CORRELATION OF THEOLOGY WITH THE PHYSICAL COSMOS

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This presentation is an effort to show how "the things which are eternal: can be incorporated into a system of progressive creation "ex nihil". There is given an analysis of Scriptural passages in which there are implications of theistic with cosmic relationships, and a brief survey of theological and philosophical approaches in which Deity is defined according to ontological attributes. Also included are various concepts of God and the search for prime existents. There is emphasis on the Trinitarian God, with a delineation of "Logos" and

"Pneuma" resulting in a construction of a trinitarian ontology, based on idea, motion, and symbol, any two of which can create and define the third existent.

Implicated in this approach is a new interpretation of physics which I call, "A Kinematic Theory of Particles, Fields and Forces." The theory traces how the Bernoulli effect of motion can produce a structured ether with a definite viscosity, and also how various patterns of movement can result in the particles and fields that give rise to the fundamental forces of nature.

Finally, the singularity of creation is seen as the setting up of relationships, with the achievement of a Kingdom of God as the goal, making the universe value centered rather than substance based.

The presentation is to be illustrated with charts and demonstrations. It represents a completely new approach which should be of interest to theologians, physicists, and cosmogonists.

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USING THE DIRECT READOUT OF WEATHER SATELLITES
TO TEACH VALUES IN THE CLASSROOM

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There exists exciting technology which could be used to increase the quality of science education, which has the potential of saving lives in the developing nations of the world, and which teaches students human values and Scriptural principles.

On April 1, 1960 the United States launched the first satellite designed specifically for meteorology. Since that time the technology has developed rapidly not only in satellite design but in signal offerings. It is possible for middle school and high school students to access satellites of our own government, the Soviet Union, the European Space Agency, and the Japanese Space Agency. The components of a satellite ground station are amazingly simple and can be obtained with minimal expense. Thus, it is now possible for students in secondary school and college to view the entire world daily from satellites and study the physics, electronics, earth and space science, and physical science involved.

The Weather Satellite Tracking Station project began at Unionville High School with a group of 56 nonscience majors and no assets except paper and magic markers. By using what they had, they developed and built the station and within 6 months had received pictures from American and Soviet satellites and had \$3,500 in assets. We began the project in November 1983 and since that time have seen how easily it allows a teacher to reinforce global awareness, respect for authority and order, and many other values not discussed in a science textbook.

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WHAT DOES IT MEAN TO BE MADE IN GOD'S IMAGE
GENESIS 1:26 IN ANCIENT BIBLICAL AND MODERN CULTURAL CONTEXT

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Christians through the ages have singled out for special attention the statement in Genesis 1:26 that human beings are made in God's image. They have typically treated this as a central biblical affirmation with significant implications for human life.

Yet, apart from four references in the early part of Genesis (1:26, 27; 5:1; 9:6), the Old Testament does not explicitly mention this doctrine. It is not until the writings of Paul that references begin to appear again, but even then they are few and far between.

This has resulted in a wide divergence of opinion over what the term "image of God" actually means. The vast majority of interpreters have simply, uncritically read their own conceptions of humanity back into the Genesis text. Even since the rise of modern biblical scholarship, with numerous comparative studies of related ideas in the ancient Near East, there is no firm consensus on the meaning of the term.

Nevertheless, certain interpretive possibilities have surfaced which correlate well with a close reading of Genesis 1, and which are highly suggestive for developing a Christian view of humanity that speaks powerfully to our contemporary situation. This paper explores these possibilities.

It attempts, first of all, a reading of Genesis 1:26 that does justice to its immediate literary context (Genesis 1:1-2:4) and makes sense of both the silence of the Old Testament on this subject and its Pauline development in the New Testament. But exegesis is only half the task.

The paper then sketches some implications of the suggested interpretation for a distinctively Christian vision of human culture and the scientific enterprise. This vision is critically contrasted with the otherworldly pietism of much Christian faith and with the humanistic secularism of the modern world.

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THE PARADOX OF MEDIATED EX NIHILO CREATION
A STUDY IN CHIASMIC COSMOLOGY

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God creates "out of nothing", yet God's creative work is generally mediated rather than direct. The question of how to hold those two statements together is closely related to the question of how to hold together biblical faith in God and the modern scientific understanding of the world. A proper understanding of the mediated character of God's work helps to resolve some of the tensions that otherwise appear between Christian faith and science.

This paper will view the following topics in terms of the "out of nothing" and the mediated character of creation:

Scientific explanations of the origins of matter and life.
"Miracles" and "signs"

Divine intervention in world history.
 Inspiration of scripture in the light of historical criticism
 The relationship between medical science and divine healing
 The use of weapons and warfare to bring about peace

The wide range of issues listed here is deliberate, for it makes clear the scope of the questions with which any adequate doctrine of creation must deal. But the "adequacy" of a doctrine of creation must, of course, first be tested by determining its faithfulness to biblical teaching, and particular attention will be given to viewing the "out of nothing" and "mediated" aspects of creation in the light of scripture.

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RELATIONSHIP ANALOGIES IN
 THEOLOGY AND NATURAL SCIENCE

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Theology and natural science ask very different questions and use different procedures with respect to the common Universe being explored; nevertheless, both human activities are grounded epistemologically in "faith seeking understanding". It is therefore not surprising that creative theologians and natural scientists have employed similar, qualitative, mathematically-structured, relationship analogies to describe different aspects of the Universe in which both live. As a particular example it is interesting to note that 1986 is the centennial of not only the theologian Karl Barth but also the physicist Niels Bohr and both these pioneering thinkers made use of complementarity relationship analogies in their respective disciplines. In doing so they were apparently not aware of each other's work although there is evidence they were both influenced by reading the theologian, Soren Kierkegaard. Furthermore Barth argued that complementarity may be an imprecise description of a much richer type of differential relationship analogy. Such differential analogies are found to play a functional role in natural science as well. Examples are given from both fields of similar relationship analogies, complementarity and differential in character; it is suggested that such similarities point toward an underlying unity in the thought patterns of theologians and natural scientists.

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SCIENCE, TECHNOLOGY, AND HUMAN BEHAVIOR:
 RESULTS OF ATTITUDES AND BEHAVIORS FOLLOWING
 THE THREE MILE ISLAND NUCLEAR INCIDENT

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Few people would dispute the vast contributions of science to new technologies in the Twentieth Century. The rapid technological advances in such areas as medicine and healthcare, information processing, communications, and transportation have been propelled by the combined resources of science, education, and industry. Although the potential application of technology to our society appears limitless, there are also questions simultaneously being raised regarding the risk of technological progress as it pertains to public health and personal and

environmental safety. Numerous technological disasters in recent years have underscored these questions. Examples of such technological disasters would include the Three Mile Island nuclear incident, chemical spills at Love Canal (New York) and Bhopal (India), and the NASA space shuttle explosion.

The 1979 Three Mile Island (TMI) nuclear incident and near meltdown of a core reactor at a nuclear power plant forced leading scientists and public officials to attempt to provide immediate and conclusive answers pertaining to public safety and damage impact. For residents living in the area immediately surrounding TMI, the incident provoked immediate questions about the short- and long-term effects on personal health, personal property, and property values.

To determine some of the attitudinal and behavioral effects that the TMI nuclear incident may have had on area residents, a randomized telephone survey was conducted during the summer of 1980. The survey content included close-ended and open-ended questions, as well as questions pertaining to demographic information about the respondent and respondent's household. Following the completion of the surveys, results were coded and then computed using various statistical tests. Among the findings, it would appear that TMI victims experienced feelings of helplessness and ambiguous vulnerability since the effects of radiation were neither tangible nor conclusive. Moreover, although not solicited in the survey, it would appear that many respondents found it necessary to affirm their own views on nuclear technology by finding specific meaning in the nuclear incident. Thus, for example, some respondents tended to spiritualize the problem; the opponents of nuclear power stating things like "It (nuclear power) is from Satan!" while advocates of nuclear power making statements such as "If God didn't want us to have nuclear power, He wouldn't have allowed it!"

The purpose of this presentation will be to look at the specific results of this survey. The presenter will discuss some of the special problems posed by personal safety, and their confidence levels in technology and science. The presenter also will discuss the implications of these findings for scientists possible ways to meet the emotional needs of disaster victims.

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IS ASA SEEKING THE TRUTH IN "ENVIRONMENTAL" MATTERS?

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Although truth is a verity and a goal of ASA, little attention is given to environmental matters-relevant to practical affairs and events. Because I believe this is a more thorny problem than commonly perceived, I will review my 18 year experience in one area that illustrates the problem. In my field of microwaves/RF (or non-ionizing radiation) the outline of events is:

- (1) The growth of "soft" science.
- (2) This leads to misinformation or propaganda in the news-media.
- (3) This is exploited by various advocacy groups, charlatans, and various professionals. This leads to unnecessary fears, litigation, etc.
- (4) Professional societies have tackled this problem through

special committees but they fail because of naivite. Therefore industry-supported "Alliances" have been organized for more effective action.

In the last decade I have come to recognize the possible broader nature of this syndrome through observing:

- (a) Books recognizing excessive concern for the "environment"
- (b) Critiques in other fields; e.g. B. Cohen for ionizing radiation; E. Efron and E. Whalen for chemicals...
- (c) Growth of various "Alliances" to fight the syndrome particularly through public education. These range from groups directed toward the product liability mess to groups like the Electromagnetic Energy Policy Alliance.

The message to ASA is a plea for recognition of the moral and ethical aspects underlying this syndrome. The motivation behind excess in "environmentalism" ranges from naivite to greed --- by professionals who see an opportunity to make money and are not sensitive about bending the truth. In large measure it may be that the need for professional employment is a big factor in an increasingly efficient technological society.

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"TEACHING SCIENCE IN A CLIMATE OF CONTROVERSY":
ASA'S OUTREACH TO SCIENCE TEACHERS

J. David Price

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ASA's Committee for Integrity in Science Education was established to meet several needs related to issues of science and Christian faith. At first the committee saw its task as helping textbook publishers find better ways to discuss evolution without turning religiously inclined citizens against science. Publication of Science and Creationism: A View from the National Academy of Science (1984) stimulated the committee to think of publishing in its own name. The committee soon recognized its primary responsibility as that of helping science teachers caught in the public controversy. A manuscript circulated in its third draft to the ASA Council and other consultants has now reached its sixth draft stage, greatly revised and improved. Gifts to a special ASA fund have enabled the committee to produce camera-ready copy. The philosophy and contents of this publication, Teaching Science in a Climate of Controversy will be discussed, as well as its printing, distribution to science teachers, and further promotion by ASA. The Committee for Integrity in Science Education welcomes ideas for future projects.

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DOES NATURE REFLECT THE CHARACTER OF GOD?

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Christians have traditionally viewed nature as "designed" by God and therefore expressing His glory and character. Special creationists cite evidences of "design" in organisms as evidence against evolution. Theistic evolutionists have their own version of the Design argument,

however. Evolution is considered to be part of the ecosystem which God has designed to sustain itself, remain in balance, and evolve in response to changing conditions. Christians who study nature have always had to deal with the existence of organisms that appear evil - e.g. predators and disease organisms. Special creationists find them inexplicable, but theistic evolutionists also have trouble explaining why a loving God would use evolution, which is "red in tooth and claw", as His method of creation. The most common explanation is that death, and therefore predators and diseases, even though they individually appear evil, are necessary components of the ecosystem that was designed to be good and reflect God's glory. God is supposed to have created nature, via evolution, in such a way that all its components work "for the general good", for the benefit of the system as a whole. Evolution which operates "for the good of the whole" is called "group selection". There is abundant evidence to indicate that group selection cannot and does not operate in nature except in very special circumstances. I will discuss ecological interactions in which the participants are acting in their own selfish interests rather than for the good of the ecosystem: mimicry in plants; nectar thieves; and leaf angles in dense vegetation. Thus the Design argument works no better on the level of ecological interactions than it does for individual organisms. The bewildering complexity of nature may reflect God's skill but its pervasive selfishness does not appear to reflect His loving and providential nature. Theistic evolutionists are therefore thrown back to deal all over again with the question "Why did God create the natural world?" I suggest that His purpose in creation was to teach us lessons rather than to reflect His own character.

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SOCIOLOGICAL CONSTRAINTS ON HUMAN NATURE;
THEOLOGICAL IMPLICATIONS OF THE ALTRUISTIC BEHAVIOR DEBATE

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For the past century many orthodox Christians have vigorously opposed what they believed to be two of the most pernicious implications of the Darwinian view of human origins - a materialistic view of human nature and a deterministic view of human behavior. For similar reasons, sociobiology, the modern attempt to understand social behavior in the light of natural selection theory, has received considerable criticism not only from Christians, but also from many biological, behavioral, and social scientists. But methodological objections and political implications notwithstanding, the sociobiological model does go considerably beyond mere materialistic determinism, in that it interprets behaviors as phenotypes facilitated by an underlying genotype rather than as events determined by underlying matter. Thus, the attempt is made to explain human nature at a uniquely biological rather than an ultimately abiotic, mechanistic level of scale. For the first time in perhaps a hundred years, the opportunity exists for Christians and Darwinians to change their usual faded and threadbare conversational wardrobe.

If behavioral repertoires are viewed as biological adaptations that are facilitated by genes, themselves the products of natural selection, all biologically-based behaviors will be expected to contribute to the

reproductive success of the individual. Biological altruism, the sacrificing of one's own reproductive success for that of another, cannot exist. Thus, any apparent sacrifice is suspected by socio-biologists to be either kin selection (making a sacrifice for a related individual with shared genes) or reciprocal altruism (sacrificing for a member of the social unit from which a return benefit is likely). In this view, biology does not cause particular behaviors, but it does constrain the domain of possible behaviors - genetically disinterested "love" is biologically impossible. This has manifest relevance to the Pauline view of the "flesh" as being at enmity with God, and to the many exhortations of Jesus to radically surpass natural patterns of caring, since even "sinners" share with friends and family. These and other congruencies will be evaluated in light of the ethical and epistemological limits of any monolithic, bio-theological paradigm.

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ORIGIN SCIENCE: AN IDEA WHOSE TIME HAS COME

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The Mystery of Life's Origin has been very positively received. However, the concept of origin science as discussed in the epilogue has evoked considerable discussion and opposition. The purpose of the present paper is to review the concept of origin science, including a discussion of its inception, its meaning and its purpose, in order to clear up misunderstandings about it that have appeared in print. How origin science can help achieve resolution of the modern origins conflict will be discussed.

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TENTMAKING AND THE ASA MEMBER OR HOW CAN THE ASAer ENTER THE OPEN DOORS IN TODAY'S CLOSED COUNTRIES

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The two most important realities in the life of an ASA member are his/her profession and his/her faith in Jesus Christ. Our professional goals and achievements must conform to the new person in Christ to which we are called. There exists no situation more significant than the 'tentmaking' ministry where the symbiotic relationship between these two components in our lives becomes so critical. Today, over half of the World's population lives under regimes that do not permit conventional missionary programs. Simultaneously, every one of these 'restricted' countries is wide open to science and technology. For these reasons, the ASA member finds himself in a unique position to face the challenges offered by today's tentmaking opportunities.

In this session we will review new tentmaking challenges offered to the ASA member. These challenges present both opportunities and problems to the Christian professional. New avenues will be explored for implementing an effective tentmaking ministry for the ASAer. These will include a computer base, an information network, training seminars and an overall strategic placement program.

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WORLD VIEW FOR TECHNOLOGY

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In his discussion of "Humanity and Technology" H. Thieleke describes technology as a secular phenomenon which has moved beyond human control. Its advance is autonomous because our human spiritual capability is pitifully weak compared with our technological ability. We have the sense of being subjected to forces we cannot control.

This paper offers a critique of Thieleke's viewpoint on technology and offers an alternative Christian point of view. As God's regents on earth we must exert our responsibility for the use of technology, which includes the need to be very cautious in the use of new large-scale technology. Technology can be devised and used for either good or evil. We must not idolize technology but use it only in deep respect for God's creation. We need to be especially alert to the apparent ever-quickenning pace of technological development.

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THE STATUS OF THE CREATION-EVOLUTION ISSUE
AMONG BIOLOGY TEACHERS IN WISCONSIN PUBLIC SCHOOLS

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and

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This paper describes a study that was conducted at the University of Wisconsin-Green Bay in 1983. The study consisted of preparing a questionnaire and distributing it to a stratified sample of Wisconsin biology teachers teaching in public schools. High school biology teachers were asked to describe their experiences with the evolution-creation issue in their community. They were also given an opportunity to give their reactions to the change in emphasis given to evolution in current textbooks, how they characterize their teaching of this issue and the importance of this issue to them as teachers. The questionnaire also contained questions that allowed the teachers to express their personal beliefs about some of the issues related to creation and evolution.

There were 146 teachers who responded to the questionnaire. About one-fourth of the teachers had been approached by community people asking that they include information on creation in their teaching. Most of the teachers did not approve of the de-emphasis of evolution in recent textbooks although they indicated that this did not influence what they taught about the topic. The results of a cross-tabulation analysis of beliefs of the teachers concerning evolution and creation indicated that less than 10 percent of the teachers could be characterized as being completely aligned with either the evolutionist or creat-

ionist beliefs.

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BIBLICAL CREATION AND BIG-BANG COSMOLOGY

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During the past decade the topic of physical cosmology has gained in popularity as the subject of numerous articles and books written for a general audience. Western culture seems to have an unquenchable fascination for the investigation of cosmic beginnings, of the "origin" and formative history of the universe. The term 'creation' frequently appears in popularizations of the standard "big-bang" model for cosmic evolution. Furthermore, when these terms are employed to designate the initial event of cosmic formation they are often treated as if they were interchangeable. But what does the biblical concept of creation have to do with today's scientific concept of big-bang beginnings? In this paper we argue that the two concepts, though they ought not to be treated in isolation from one another, are concerned with fundamentally different categories of questions about the physical universe.

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GENESIS DAYS AND GALACTIC TIME

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The Bible begins in terms of space. "In the beginning God created the heavens and the Earth."

Astronomers have studied the heavens through telescopes for about 350 years. They became interested in the way stars are grouped in the sky. A band of bright stars and nebula was very much apparent, stretching from north to south, circling the earth. It was in the 1920's that the true significance of the Milky Way Galaxy was realized. With the 100 inch telescope on Mount Wilson it was defined as our galaxy, one among millions. Each one has a bright center or nucleus. We cannot see the nucleus of our galaxy because of dark clouds in space. This galaxy and its nucleus may have great significance in interpreting the Biblical Creation Story in Genesis. The story may be a literal history of the development of our galaxy.

Using this approach as an hypothesis, the very satisfying correlation was worked out. It has been presented without serious objections to many science and religious groups.

The latest researches show that the galaxy rotates at a rate of approximately 270,000,000 years per revolution. By considering astrophysical laws and interpreting these rotations as Days of Creation in Genesis, no basic inconsistencies have been found between science and Genesis.

The sciences besides astronomy also correlated with good "fits". It is quite significant that man is found in the last of Genesis and also in the latest layers of earth's strata. Many other problems were cleared up in this study. Ages of the stars, moon, earth and possibly the sun

appear scientifically reasonable by the model.

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THREE MODELS OF MAKING; PRIME MOVER, CRAFTSMAN AND KING

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Each of these three historic models has ancient roots, each played a significant role in both the secular and religious response to Charles Darwin, and each is still involved today in the debate over "Creator" versus "Evolution".

The paper will consider four issues from each viewpoint: species stasis, species lability, random mutation, and natural selection. The goal will be to demonstrate how differently the same concept may appear, given different world-view assumptions.

The paper will conclude with a case for Kingship as the Biblical view of creation. The real issue is the continuing Sovereignty of God in the natural world. "Ancient" distinctions (Drawn by Charles Hodge in 1874!) will be used to analyze "evolution" and evaluate the concept that God might create through an "evolutionary" process.

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GOD'S IMAGE IN HUMANITY: THE ESSENCE OF HUMAN NATURE

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In the light of the different theological and social-psychological views of the essence of human nature, it is necessary that Biblical-social-psychological integrationists have a more refined picture of the qualities comprising God's image (Imago) within humans. Since Jesus fully developed God's image (Jesus was what we are created to become), and believers are "predestined to conform to the image of (God's) Son," our expectancy to fully develop each Imago quality makes it easier for Christ's Spirit to mature us.

By a social-psycho-spiritual hermeneutic of key Biblical passages, the rainbow qualities of God's interpersonal light are clarified as the essence of human nature. The experiencing of these qualities by reception as well as expression are shown to tie to Jesus' theory of the self, which we are to develop. Some of the qualities are linear for maximum healthfulness, and some are curvilinear, but all are interpersonal. Sin appears to distort these qualities. Higher order factors of these qualities clarify the eternal interpersonal-relationships within the Society of the Triune Godhead.

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GOD'S IMAGE, CONTEXTUALIZING THE GOSPEL, AND CROSS-CULTURAL VALUES

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Since Jesus "is the light who enlightens everyone coming into the world," and all humans created in God's image are morally responsible for knowing God (Rom. 1), we must apply an Imago theory of humanity that is empirically testable and genuinely realizable.

The previously outlined Imago theory is shown to be congruent with cross-cultural value characteristics observed by cultural anthropologists. Furthermore, a research design is presented to test the Imago theory cross-culturally, and at the same time to test aspects of socio-biological theories.

This Imago theory applies to the core of missiology's contextualizing the Gospel. Also, by applying the research methods to explore how each culture both reflects and distorts the Imago rainbow qualities, missionaries and ethologists are better able to work with each culture.

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THE NATURE OF HUMANITY IN SCRIPTURE VS PSYCHOLOGY

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The blueprint for the nature of humanity was in the Father-Son relationship before the world was created. The Father intended for His Son to have a Body to express His life which meant a vast family who would show His nature. "Let us make man in our image" - a reflection of them. Herein lies the basis of humanity's dependence upon God. But at the same time man was given the choice of continued obedience or rebellion and coming under the rule of Death. The effect of the rebellious choice was immediately revealed in three areas of relationships: with God, within themselves and between themselves.

For the Father to carry on His purpose He sent Jesus to make restoration possible, to manifest Himself to the world and to demonstrate the full stature and reality of human nature in a cursed world. We will see that there is the same nature in the life of Jesus as in the beginning of the life of the first man and woman.

VS PSYCHOLOGY

The field of psychology as a science has been with us since about the time of Freud who was the first psychiatrist to develop a personality theory of major significance in an effort to help people. Since then it seems that there is no limit to the diversity of theoretical models of humanity. It seems that it is very difficult to bring these theories under scientific research because they cannot be stated in testable form. Furthermore, man himself may not be adaptable to the scientific method.

For any theory to explain reality all factors need to be taken into account and the ignored dimension of sin has been a major omission. With so many of the present theories geared to self-gratification and self-fulfillment, the actual destruction of the person is predictable. A study of Jesus based on present day psychological basic assumptions reveals what possibilities there are even in a sinful world.

The need to know ourselves and those we work with is so vital that the

question can be raised as to what is to be done with such diversity in the field? I believe that Dr. Walter R. Thorson gave us last year at Oxford in his approach to knowledge a fundamental base from which to start. It is a practical way so that our work-a-day world comes under the same attitude and search as our spiritual lives.

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THE CONCEPT OF HYPER-RELIGIOSITY IN NEUROPSYCHIATRIC ILLNESS:
ANATOMIC AND CLINICAL CONSIDERATIONS

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The concept of excessive or hyper-religiosity has attained near standard usage in the clinical behavioral sciences. As with many concepts related to human behavior, its definition is difficult, and its distinction from the root concept of religiosity imprecise. Nonetheless, exaggerations of religious concern and behavior are commonly noted in the major neuropsychiatric illnesses, particularly schizophrenia, manic-depressive illness, and epilepsy. The characteristics of religious behavior in these illnesses reflect distinctions related to the underlying behavioral pathology. Recent developments in the understanding of the pathophysiology of these disorders, particularly schizophrenia and epilepsy, and of the neuroanatomic basis of emotionality in general, particularly in the limbic system, are of importance in understanding the physiologic basis of religious concern and behavior, and of its distortion by emotional illness.

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THE SERMON AS BEHAVIOR CHANGE AGENT:
THE IMPLICATIONS OF STATE DEPENDENT LEARNING

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One of the apparent goals of the sermon in the Christian service of worship is to convince the parishoners that certain behaviors are necessary or desirable in the life of the Christian believer. Given the likelihood that such behaviors may not currently match actions, it follows that a related goal is to effect behavioral change. In this sense, preachers and psychologists share a common objective.

One of the classic problems faced by psychologists in effecting change is to produce new behaviors which are maintained beyond the laboratory, what we call the problem of generalization. Of the many factors limiting generalization, state dependent learning (SDL) seems significant.

State dependent learning describes the phenomenon whereby material learned in one state is more difficult to recall later if characteristics of the state are significantly altered. The research reported here attempts to determine is the state established in the worship service is sufficiently different from the states found in everyday life to predict a state dependent failure of generalization. If this is so, then behavioral decisions engendered in the worship service will be less than effective in producing changed behavior beyond the walls of the church.